REMARKS

Claims 2-6 are currently pending. Claims 2-5 have been amended, claim 1 has been canceled without prejudice or disclaimer, and new claim 6 has been added herein. The specification has been amended at two places to correct typographical errors. The allowance of claim 5 and the indication of allowable subject matter in claims 2 and 4 are acknowledged with appreciation.

At the outset, it appears that a PTO-1449 form listing EP 1117215 was not returned to Applicant along with the May 8, 2003 Office Action. EP 1117215 was submitted with a Supplemental Information Disclosure Statement (IDS) dated August 26, 2002. It is respectfully requested that an Examiner-initialed PTO-1449 form be returned to Applicant indicating that EP 1117215 has been considered by the Examiner and made of record. Copies of the August 26, 2002 Supplemental IDS and PTO-1449 form are enclosed herewith for the Examiner's convenience. Also enclosed is a copy of the date stamped postcard acknowledging receipt of the same by the U.S. Patent and Trademark Office.

The Office Action includes an objection to the disclosure as set forth in paragraph 2 at page 2 of the Office Action. The specification has been amended at page 18 to correct a typographical error as requested by the Office, and withdrawal of the objection is respectfully requested.

The Office Action includes a rejection of claim 3 under 35 U.S.C. §112, first paragraph, as allegedly failing to comply with the enablement requirement. Claim 3 has been amended in a manner that addresses the Office's rejection, and withdrawal of the rejection is respectfully requested.

The Office Action includes a rejection of claims 1 and 3 under 35 U.S.C. §102(b) as allegedly being anticipated by the *Casper et al.* patent (U.S. Patent No. 5,754,577). This rejection is respectfully traversed.

Claim 1 has been canceled herein without prejudice or disclaimer. Accordingly, the rejection against claim 1 is moot.

Claim 3 recites an optical receiver, comprising a light receiving element for converting an incoming optical signal into an electrical current signal, a preamplifier for converting the electrical current signal from the light receiving element into a voltage, and a DC bias control circuit for controlling a DC bias in accordance with the voltage from the preamplifier. The optical receiver also comprises a data regeneration and clock recovery circuit for regenerating data and recovering a clock from an AC component of the voltage from the preamplifier based on the DC bias controlled by the DC bias control circuit.

In contrast, Figure 3 of the *Casper et al.* patent, upon which the Office appears to rely, discloses a circuit configuration of a laser drive current control loop to adjust the magnitude of the laser modulation drive current produced by a laser current driver 20 to compensate for variations in temperature and aging of the laser (see column 5, lines 46-58). The Office alleges, among other things, that monitoring photodiode 70 corresponds to the claimed light receiving element, that the RF amplifier 120 corresponds to the claimed preamplifier, that the differential integrator 160 is part of a DC bias control circuit that applies a DC bias to the laser current driver 20 based on the output signal from the RF amplifier 120, and that the laser current driver 20 corresponds to the claimed data

regeneration and clock recovery circuit. Applicant respectfully disagrees and submits that claim 3 is not anticipated by the *Casper et al.* patent.

In particular, the *Casper et al.* patent discloses at column 8, lines 6-13 that differential integrator 160 is operative to generate a DC output voltage that is proportional to the integral of the difference between its inputs 161 and 162. As is evident from Figure 3 therein, this DC output voltage is input to the laser driver 20, which the Office alleges corresponds to the claimed data regeneration and clock recovery circuit. As such, the laser driver 20 does not regenerate data from an AC component of the voltage from a preamplifier as does the claimed data regeneration and clock recovery circuit, at least because the laser driver 20 does not receive an AC component of the voltage from a preamplifier. Withdrawal of the rejection against claim 3 is respectfully requested for at least this reason.

In addition, claim 3 recites, *inter alia*, that the claimed data regeneration and clock recovery circuit recovers a clock from an AC component of the voltage from the preamplifier. In contrast, the *Casper et al.* patent does not disclose that the laser driver 20 (the alleged regeneration circuit) recovers a clock, and, in fact, the Office has not even alleged that the *Casper et al.* patent discloses this subject matter. Accordingly, withdrawal of the rejection against claim 3 is respectfully requested for at least this additional reason.

The Office Action includes a rejection of claims 1 and 3 under 35 U.S.C. §103(a) as allegedly being unpatentable over the *Urala* patent (U.S. Patent No. 4,805,236) in view of the *Price* patent (U.S. Patent No. 5,721,424). As noted above, claim 1 has been

canceled herein without prejudice or disclaimer. Accordingly, the rejection against claim 1 is moot. The rejection against claim 3 is respectfully traversed.

The *Urala* patent discloses an input stage of an optical receiver comprising a photodiode PD acting as a photodetector, the output of which is connected to the input of a high-impedance amplifier A1, wherein two semiconductor diodes D1 and D2 are connected to the point of connection of the photodiode PD and the amplifier A1, wherein the cathode of diode D2 is connected to the input of amplifier A1, and wherein the anode of diode D2 is connected to a biasing block 31 of the amplifier A1 (see Figure 3 therein and column 3, lines 30-41). The Office acknowledges that the *Urala* patent does not disclose a data regeneration and clock recovery circuit. The Office alleges that a data regeneration and clock recovery circuit is disclosed in the *Price* patent and that one of ordinary skill in the art would have been motivated to utilize the clock and data regenerator 72 disclosed in the *Price* patent (Figure 3) with the apparatus disclosed in the *Urala* patent for the alleged purpose of adjusting the level of bias with the level of power of the optical pulse stream (citing column 5, lines 62-67 of the *Price* patent).

Applicant respectfully submits that the Office's rejection does not make out a *prima facie* case of obviousness. First, it is respectfully submitted that one of ordinary skill in the art would not have been motivated to combine the clock and data regeneration circuit 72 of the *Price* patent with the *Urala* apparatus as suggested by the Office. For example, column 5, lines 62-67 of the *Price* patent, relied upon by the Office, states that the repetition rate of the optical pulse stream obtained from the clock regenerator 72 is fed back to the

modulation generator 60 to create a rising level of bias slightly in advance of the rise in power of the optical pulse stream. In other words, the objective disclosed in the *Price* patent depends upon feeding the output of the clock and data regenerator 72 into a modulation generator 60 which is connected to the photodiode 56 (see also Figure 3 of the *Price* patent). In contrast, there is no disclosure in the *Urala* patent of utilizing a modulation generator in conjunction with the photodiode of the *Urala* apparatus. Accordingly, for at least this reason, it is respectfully submitted that one of ordinary skill in the art would not have been motivated to make the modification suggested by the Office. Applicant respectfully submits that the Office's rejection fails to make out a *prima facie* case of obviousness for at least this reason.

Moreover, even if, *arguendo*, the Office's suggested modification were made, the resulting hypothetical apparatus would not render claim 3 obvious. For example, claim 3 recites, *inter alia*, that the data regeneration and clock recovery circuit regenerates data and recovers a clock from an AC component of the voltage from the preamplifier based on the DC bias controlled by the DC bias control circuit. In contrast, the *Price* patent does not disclose that the clock and data regenerator 72 regenerates data and recovers a clock based on the DC bias controlled by a DC bias control circuit. Accordingly, it is respectfully submitted that a prima facie case of obviousness has not been made out for at least this additional reason.

For at least the above-noted reasons, it is respectfully submitted that claim 3 is patentable over the *Urala* patent in view of the *Price* patent. Withdrawal of the rejection and allowance of claim 3 is respectfully requested.

The Office Action includes an objection to claims 2 and 4 as being dependent upon rejected base claims. Claim 2 has been placed in independent form without the limitations of claim 1 and has been amended to adjust the claim terminology for reasons unrelated to patentability. Claim 2 is believed to be allowable at least for reasons of record, and allowance of claim 2 is respectfully requested. Claim 4 has been amended to harmonize claim terminology with claim 3 (e.g., "output signal" has been changed to "voltage" for consistency with claim 3), and these changes are not intended to be related to patentability. Given that claim 3 is believed to be allowable at least for reasons set forth above, it is believed that claim 4 is presently in condition for allowance. Allowance of claim 4 is respectfully requested.

Claim 5 has been amended to remove certain language and to adjust other language for reasons unrelated to patentability. Claim 5 is believed to be in condition for allowance at least for reasons of record.

New claim 6 has been added herein to round out the scope of protection being sought. Claim 6 recites an optical receiver comprising, *inter alia*, a data regeneration circuit for regenerating data from an AC component of the voltage from the preamplifier based on the DC bias controlled by the DC bias control circuit. Accordingly, claim 6 is

believed to be allowable at least for reasons similar to those set forth above for claim 3. Allowance of claim 6 is respectfully requested.

In light of the foregoing, withdrawal of the objections and rejections of record is respectfully requested so that the present application may pass to issuance. Should there by any questions in connection with this application, the Office is invited to contact the undersigned at the number below.

Respectfully submitted,

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